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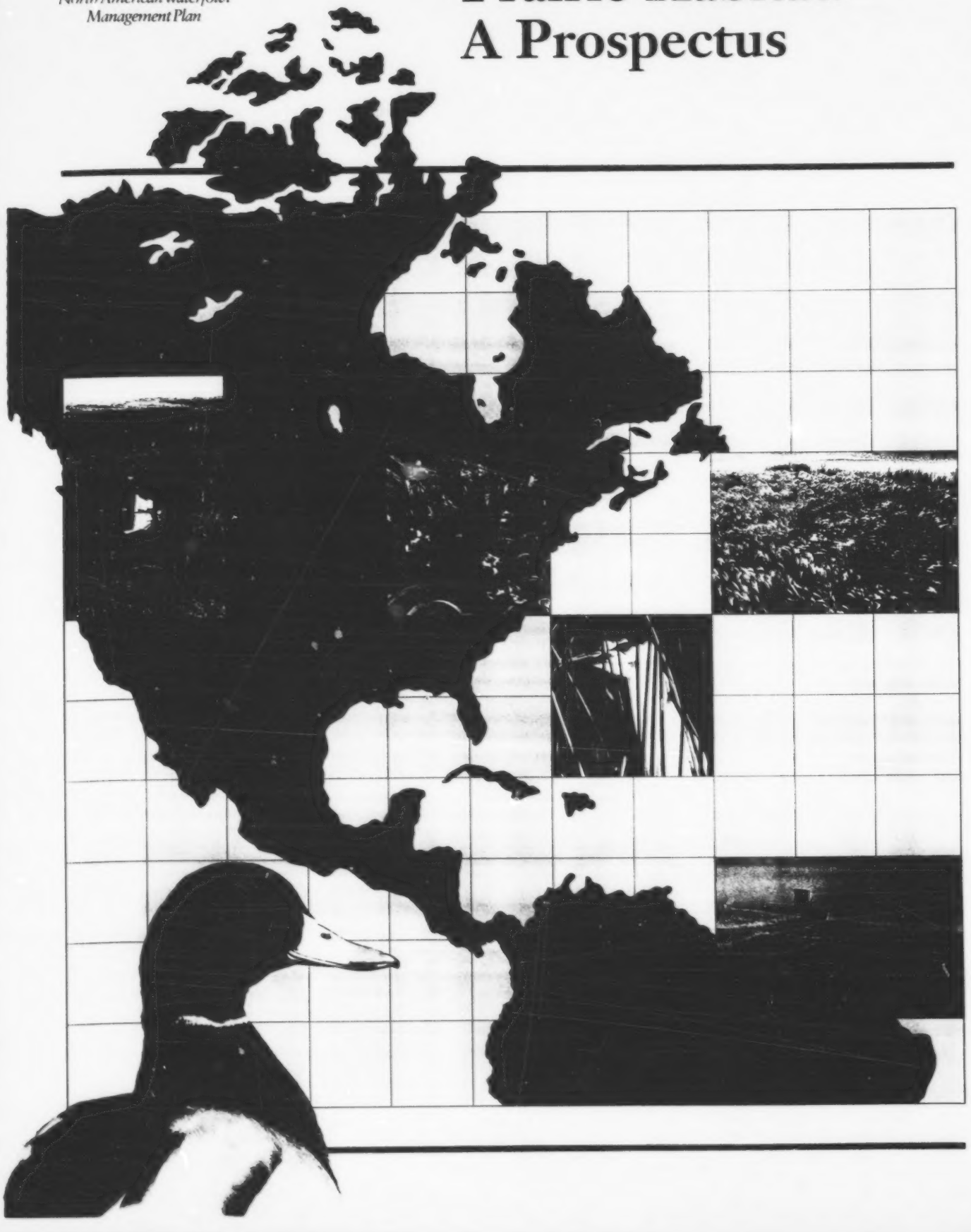
North American Waterfowl Management Plan

Prairie Habitat: A Prospectus



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The Prairie Habitat Joint Venture is the largest program under the North American Waterfowl Management Plan, signed in 1986 by Canada and the United States.

Participating Canadian public and private agencies make up the Prairie Habitat Joint Venture Advisory Board, which coordinates regional activities of the PHJV partners.

"Conservation means maintaining the ecological conditions to renew living things and to replenish soil, water and air. It means a balance between the uses of land for economic activities and for the natural processes of renewal and replenishment."

World Wildlife Fund Canada

Prairie Habitat: A Prospectus

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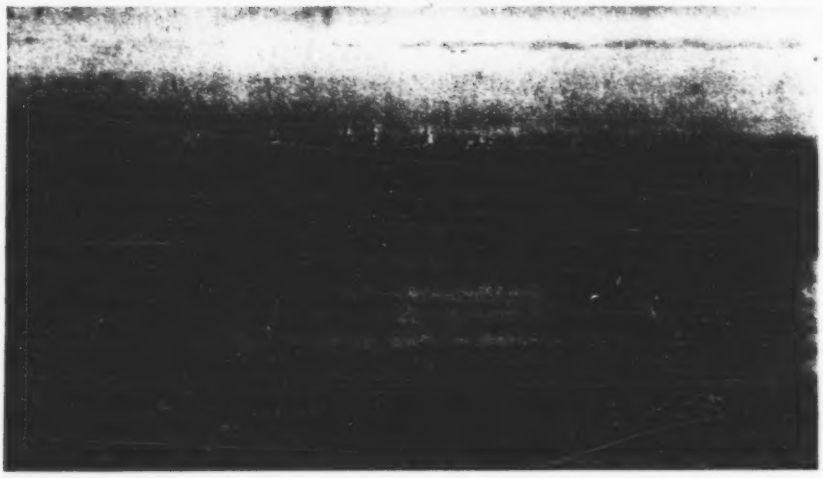
Prairie Habitat
Joint Venture Advisory Board

Current members of the PHJV Advisory Board are:

- Environment Canada (Canadian Wildlife Service)
- Agriculture Canada (Prairie Farm Rehabilitation Administration or PFRA)
- Government of Alberta (Dept. of Foresty, Lands, and Wildlife)
- Government of Saskatchewan (Dept. of Parks and Renewable Resources
- Government of Manitoba (Dept. of Natural Resources)
- Delta Waterfowl and Wetlands Research Station
- Ducks Unlimited Canada
- Wildlife Habitat Canada

A wide variety of other groups are also involved, including provincial agriculture agencies, municipal governments, irrigation districts, agricultural service boards, conservation districts; cooperating landowners, and volunteer conservation, naturalist and fish and game groups.



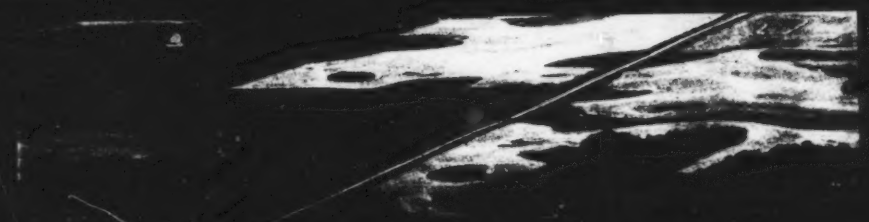
PHJV

Prairie Habitat
Joint Venture

a component of

North American Waterfowl Management Plan

The Circumstance

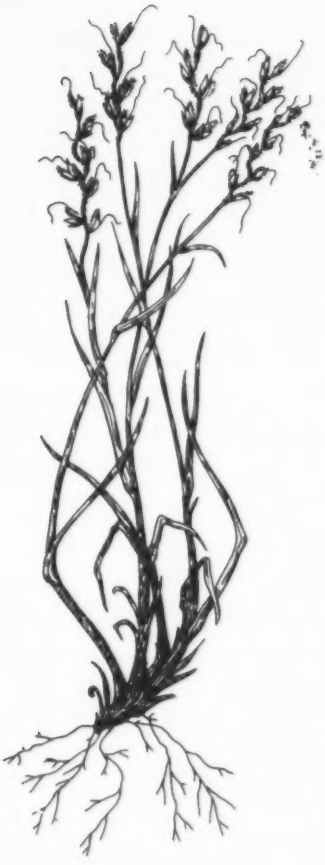


"Conservation means managing resources so they will continue to support the human family. Envisaged is a state of harmony between people and the natural treasures around them.... What greater challenge than that of bringing wise and generous guardianship to the natural heritage?"

Honorable J. W. Grant MacEwan

The Circumstance

The Canadian prairies have been bountiful producers of cereal grains and rich grazing grasses for farmers and ranchers for almost a century. They have also supported abundant wildlife populations. Almost half of the continent's waterfowl breed in this region.

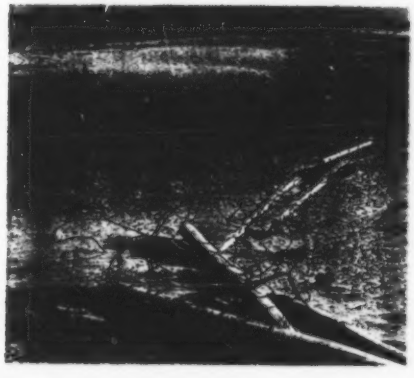


Buoyant international markets after World War II brought rapid agricultural expansion, as farmers cultivated more land to meet the economic growth opportunity.

Over the past twenty years, this activity accelerated.

Often, marginal lands were cleared, plowed and seeded — areas that were hilly, with pockets of water that made them difficult to work — along with fields where poor soil quality could not support sustained production of cereal grains.

Thousands of acres of wildlife habitat disappeared. Water supply problems emerged with the drainage of wetlands for crops. Topsoil erosion increased. Waterfowl began to decline as nesting areas among perennial grass were replaced by annual crops, and sloughs and potholes were drained for farm expansion. Traditional territories of prairie song birds, shorebirds, and mammals disappeared: a place to live and raise young was more difficult to find.



"Wind erosion is caused by high winds blowing on dry unprotected soil. A soil's susceptibility to wind erosion is greatly increased through excessive tillage, summer-fallowing, or failing to leave crop residues or cover crops in place."

Science Council of Canada

tices can't continue indefinitely. Many would prefer to concentrate production efforts on higher quality lands, while converting poorer land to less intensive agriculture use. However, a switch to more conservation-friendly farming practices is impeded by existing economic conditions and policies influencing land use.

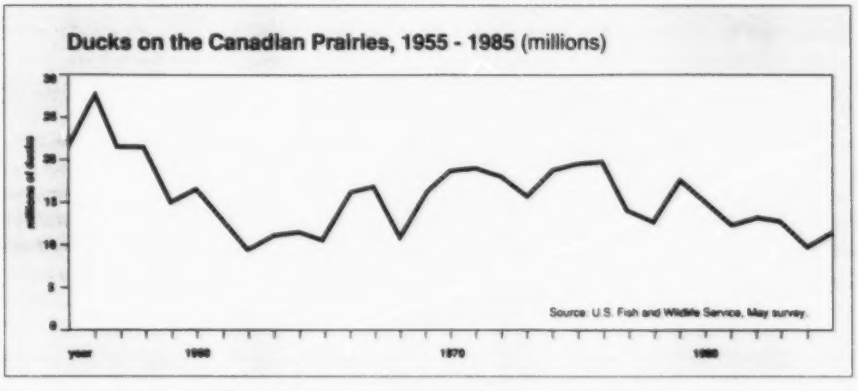
Both town and country dwellers are becoming more aware of the dilemma.

It is part of a growing environmental understanding that our ecosystems are more fragile than we realize — and that economic growth in any industry is short-lived when it abuses the resource on which it is based.

The Prairie Habitat Joint Venture seeks to rejuvenate waterfowl and wildlife habitat by supporting sustainable development activities such as large-scale wildlife and soil and water conservation programs that will also improve economic returns to farmers.

This loss of habitat, combined with other factors, has caused waterfowl populations in prairie Canada to decline progressively since the early 1970s.

In the past decade, rising production costs, concern for soil degradation and stiff international market competition for prairie beef and grain, have combined to create a change in philosophy for many hundreds of concerned prairie farmers and ranchers. They realize that traditional land use prac-



"We used to have two solitudes ... wildlife and agriculture... on the landscape. Wildlife's answer to an agricultural monoculture was a wildlife monoculture. Now, we're looking to common solutions for a shared problem. It exemplifies the current concepts of sustainable development, without alienating any part of the landscape."

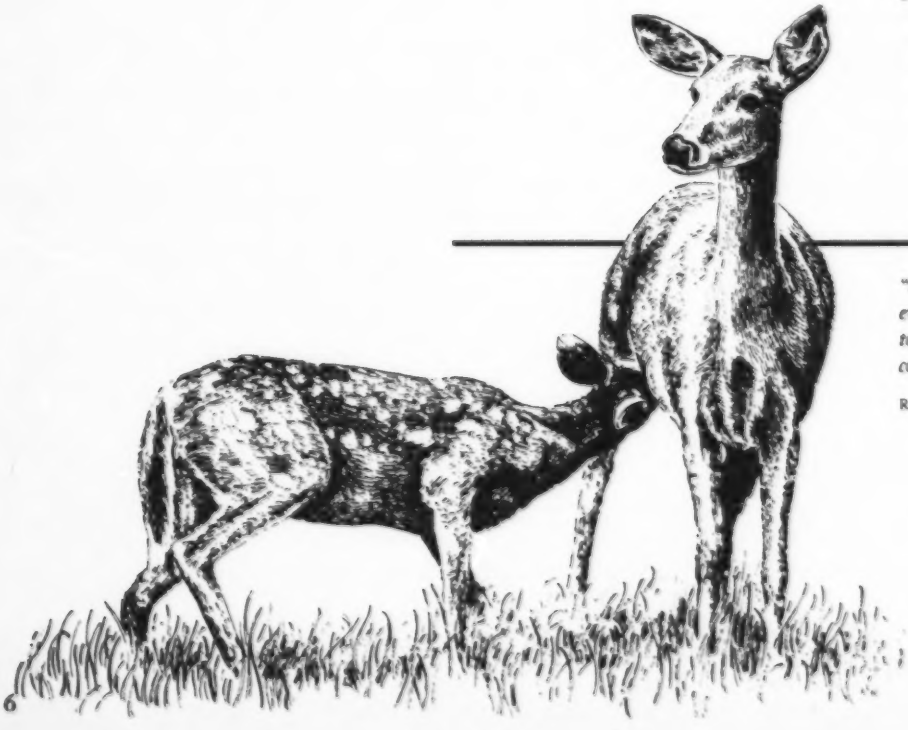
Prairie Habitat
Joint Venture Steering
Committee member

"The major difference between today's crisis and that of a half-century ago [the dust bowl of the 1930s] is that significant changes in agricultural practices and a poor farm economy have forced prairie farmers in Canada and the United States to push every possible acre into production. Wetlands and uplands used by nesting ducks as recently as the 1970s exist no more. Never before have waterfowl faced the combination of widespread drought and modern, intensive agriculture."

Ducks Unlimited

It is not an isolated program. Related initiatives include:

- Provincial and federal wildlife agencies are working directly with landowners on habitat retention programs which offer a broad range of wildlife benefits. The Quill Lakes project in southern Saskatchewan, the Buffalo Lake project near Stettler, Alberta, and HELP in the Minnedosa region of Manitoba are examples of up-front committments to prairie land and habitat conservation. Some habitat programs, such as the Saskatchewan Heritage Marsh Program, have five or more partners. Ducks Unlimited Canada's agricultural extension activities and Prairie CARE program emphasize the agricultural and wildlife benefits of conservation farming practices. These new partnerships between conservation agencies and landowners largely occurred in anticipation of the North American Waterfowl Management Plan (NAWMP) becoming a reality.
- Soil Conservation Canada, founded in 1987 on recommendation of the Canadian Senate, serves as a focal point for soil conservation issues and the development of education materials, and as a catalyst for increased soil conservation programming.
- A new National Soil Conservation Program, with matching federal and provincial funds, is aimed largely at retirement of marginal lands from intensive agricultural use on the prairies.
- An extensive review of agricultural policies affecting land use in Western Canada has begun. A primary consideration is the impact of these policies on wildlife habitat.
- Public and private conservation agencies are advocating multiple use land resource management as a means of achieving sustainable development.



"Sooner or later, everybody sits down to a banquet of consequences."

Robert Louis Stevenson

The Vision

A CONTINENTAL PRESCRIPTION FOR THE PRAIRIES

Soil, Water, Wildlife

The Vision

In 1984, public and private agencies in Canada and the United States began to design in detail what was to become the most comprehensive land use and wildlife habitat program in the world.

Two years later, the North American Waterfowl Management Plan (NAWMP) was signed by Canada's Minister of the Environment, and by the Secretary of the Interior on behalf of the United States.

The document is revolutionary in its vision.

The "health of the land" is viewed through the collective eyes of both countries. Sweeping across the border, the vision is of a massive cooperative funding of land conservation programs as a method of restoring waterfowl and other wildlife habitat.

It uses waterfowl populations as a barometer for success. And it takes a long view - to the next century and beyond - when a rejuvenated landscape will largely "manage itself".

The vision is of thousands of Canadian prairie farmers and ranchers managing their business in a new way — with help from a variety of agencies to ensure agricultural sustainability while providing a more diverse and productive landscape for wildlife.

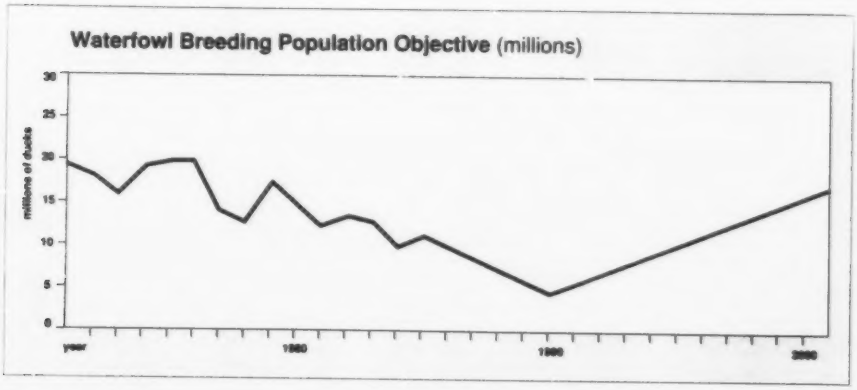
Waterfowl Habitat Areas of Major Concern in the United States and Canada

"Canadian wetland habitat is especially noted for support of the continent's waterfowl species and is the focus of the North American Waterfowl Management Plan. Prairie potholes provide habitat for the production of roughly 50% of the North American waterfowl population."

Canada Committee on Ecological Land Classification

"History has a subtle way of repeating itself. One civilization after another has risen to commanding heights of power and wealth and luxury, then committed social suicide by relaxing its concern for those very qualities which brought it to greatness. There is no reason to think the western civilization of which Canada and the United States are parts will escape the pitfalls."

Honourable J.W. Grant MacEwan



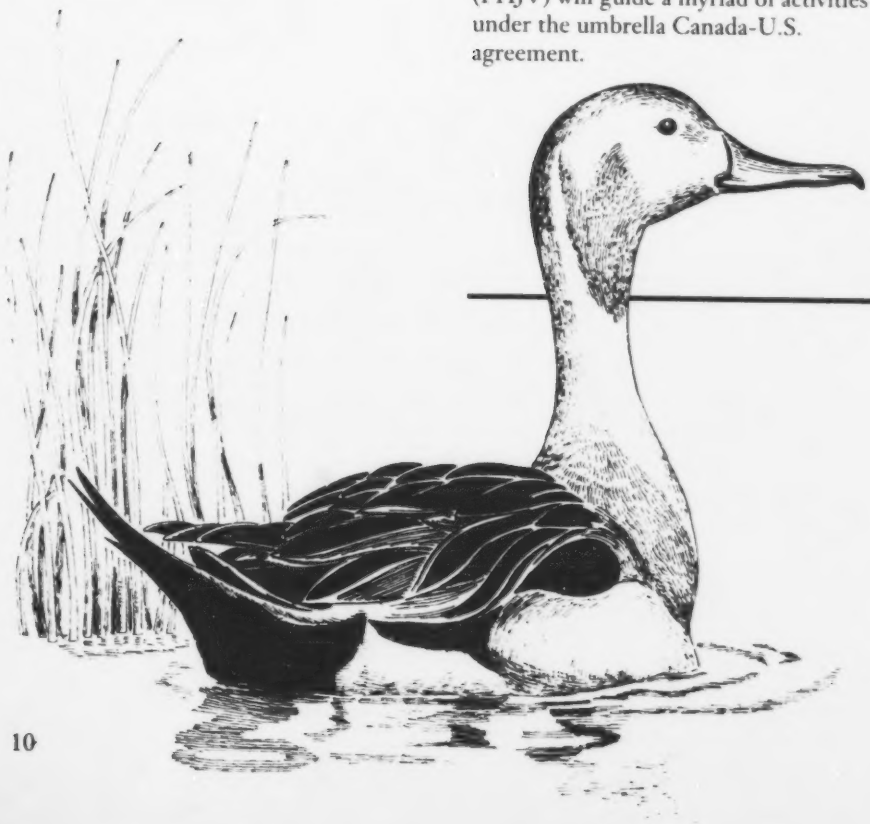
Of the 32 regional habitat priorities identified under the NAWMP, the "prairie pothole" region of Canada and the U.S. is ranked highest — because of its importance as breeding habitat for continental mallard and pintail duck populations, which are in critical decline.

The Prairie Habitat Joint Venture (PHJV) will guide a myriad of activities under the umbrella Canada-U.S. agreement.

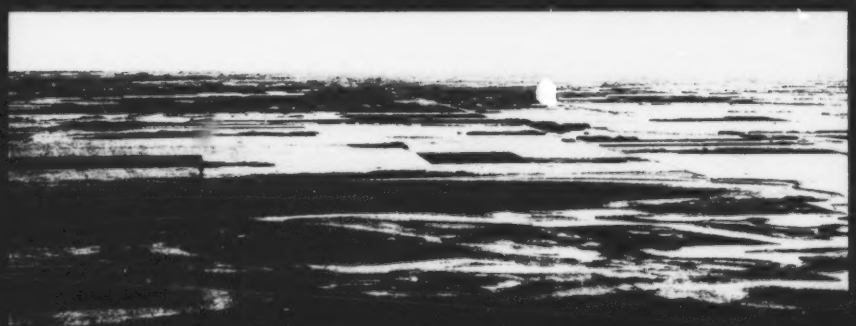
The objective is to restore waterfowl populations in prairie Canada to levels of the 1970s, when the spring breeding population of all species of waterfowl ranged between 17and 20 million birds.

Waterfowl Breeding Population Objective

Programs are expected to cost about $1 billion over 15 years, with Canada contributing 25%, and the U.S. 75% of the funding. The money will finance a host of new conservation techniques, in partnership with individual landowners. In addition to restoring waterfowl and wildlife habitat, it will create major economic spinoffs for local suppliers across Western Canada.



The Plan



"You cannot manage for wildlife and ignore the farmer, especially if you are on a farmer's land! Similarly, agricultural programs that disregard detrimental effects on the environment are doomed."

John P. Morgan

The Plan

Most prairie land is now privately owned by farmers or ranchers, so that wildlife becomes a "by-product" in an agriculturally dominated landscape.

The PHJV seeks to ensure that the wildlife by-product regains importance as a valuable output of the land.

Land that is healthy for wildlife is also most productive, in the long-term, for farmers. Sound land management is based on strengthening soil and water resources - the common life blood for agriculture, waterfowl and a tremendous variety of other wildlife.

Joint venture programs will subtly change the landscape on 3.6 million acres of parkland and prairie in Alberta, Saskatchewan and Manitoba. The barometer for success is an increase in the annual prairie waterfowl breeding population "by-product" — which requires both wetlands and upland habitat. Populations of other wildlife species will also be enhanced.

Program Strategy

There are four basic components:

1. Private and public lands in areas of high waterfowl production capability would be secured and managed intensively by wildlife agencies.
2. Large wetland areas important to waterfowl would be protected and, where necessary, enhanced.
3. Habitat programs are being developed which will be complementary to, and supportive of, agricultural soil and water conservation initiatives.
4. Government policies and programs that affect land use will be reviewed with the intent of achieving both agricultural and wildlife conservation objectives, resulting in broad changes to the landscape across the prairies.

"Over 45 species of waterfowl, 155 other species of birds, 50 types of mammals and an extensive flora depend on wetlands."

Canada Committee on Ecological Land Classification

"...prairie agriculture has lived on a soil depletion economy"

The Alberta Institute of Agrologists

Provincial Targets

High priority areas for PHJV activity have been selected in each province, with waterfowl production capability as the primary criterion. Programs will only be undertaken in cooperation with landowners who volunteer to participate.

Alberta

Fourteen areas have been identified, with the aspen parklands in central Alberta a first priority for program action, because of climate and topography considerations. Grasslands and the Peace River parkland are also identified. Over 15 years, a total 62.5 million acres will benefit to some degree. More that 90% of the influenced habitat will be in the aspen parklands. PHJV expenditures are expected to total $590 million in Alberta.

Saskatchewan

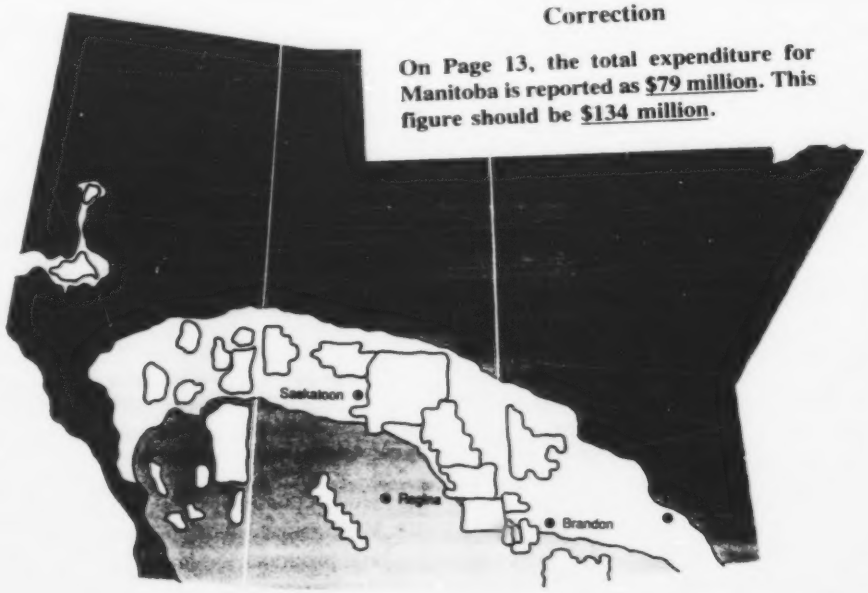
Seven areas of highest capability habitat were selected in the parkland and grassland areas with consideration for wetland density, condition of the upland, and climate patterns. Of the total 24.3 million acres in the seven target areas, 5.7 million acres will be the focus for program activity. PHJV expenditures are expected to total $438 million in Saskatchewan.

Manitoba

Most of the high capability pothole habitat is located in the aspen parklands. Using wetland density and intensity of agricultural impact as considerations, 3 million acres of pothole habitat were selected as priority program areas. Of this total, 500,000 acres of pothole and adjacent upland habitat will be directly affected. PHJV expenditures are expected to total $79 million in Manitoba.

Correction

On Page 13, the total expenditure for Manitoba is reported as $79 million. This figure should be $134 million.



"...a system of conservation based solely on economic self-interest is hopelessly lopsided. It tends to ignore, and thus eventually to eliminate, many elements in the land community that lack commercial value, but that are (as far was we know) essential to its healthy functioning."

Aldo Leopold

Project Elements

Prairie Habitat Joint Venture programs span a diversity of activities, from direct interventions, such as nest baskets for breeding ducks, to resolving broad policy conflicts which prevent sound soil, water and wildlife conservation measures.

Major program elements are:

- Intensive management
- Extensive management
- Crop damage control
- Key wetlands
- Rationalization of policies and programs
- Evaluation

Intensive Management Programs

These programs are exclusively waterfowl-oriented and depend almost solely on wildlife agencies for delivery. Activity is site-specific and restricted to areas of highest potential for waterfowl and wildlife habitat. The programs can be accomplished relatively quickly, are generally costly to undertake on a per acre basis, and have a high and predictable success rate. However, not enough land can be secured to meet PHJV objectives by using this method alone.

Intensive programs will require approximately 55% of available PHJV funding in the first several years of the program.

Examples of intensive programs are:

Dense nesting cover

Perennial grasses are seeded and maintained as nesting cover on land which is rented from farmers, or held in fee title. The land may be fenced to discourage predators.

Nesting structures

Nest baskets, rafts or earth mounds are put into wetlands to aid breeding ducks, where upland nesting cover isn't available.

"... the signals we receive from a vast array of programs provided by various levels of government are that society is not really interested in supporting us in our good intentions. If society is sincere in wanting us to farm in a way that will conserve soil and water, it had better start giving us genuine support."

Allan Chambers, Farmer

Idle hay and pasture

Existing hay and pasture land is retired from agricultural use. The program pays cash rental on private or leased Crown lands.

Extensive Management Programs

Unlike the direct, intensive management programs, the more complex extensive management activities are multiple-use oriented and require integration with other soil and water conservation initiatives — particularly those of agriculture.

Habitat managed under extensive programs will be largely on land owned by farmers or ranchers. Landowners would be encouraged to cooperate in conservation activities that benefit the soil, water, and wildlife resources and would receive financial incentives to do so.

The building of cooperative wildlife and agriculture programs will require considerable negotiation and planning in the early years of the PHJV program.

In the long term, sound conservation practices are expected to "pay off" as self-supporting, without the need for continued financial help to the farmer or rancher.

Extensive management programs will require about 25% of the PHJV funding in early phases, with an escalation of funding for extensive activities as the 15-year plan evolves.

Examples of extensive programs, involving both agriculture and wildlife agencies are:

Marginal land conversion

Lands marginal for annual crop production are converted to perennial cover (hay or pasture) and managed by the landowner jointly for agricultural and waterfowl purposes, under cash rental agreements.

"It is time for a new dedication to stewardship of the earth and its riches, a new emphasis upon the responsibilities of good guardianship."

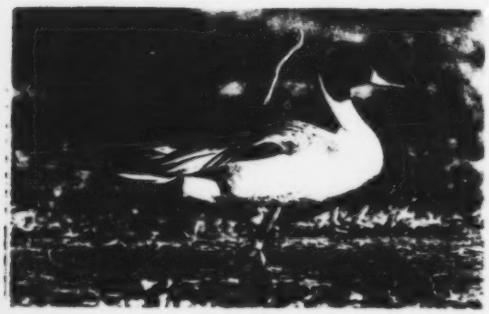
Honourable J. W. Grant MacEwan

"Midcontinent mallard, pintail and black duck populations are designated as immediate international priorities. The top priority for protection is the prairie pothole breeding habitat for mallards and pintails in both Canada and the United States. Deterioration of habitat in this prairie area has been the principal cause of decline in abundance of these species."

North American Waterfowl Management Plan

Waterfowl Breeding Population Objectives

Province	Population (Millions)		
	Mallards	**Pintails**	**Total Ducks**
Alberta	2.1	1.5	8.8
Southern Saskatchewan	3.0	not specified	10.0
Southern Manitoba	0.4	not specified	2.0
Total	5.5		20.8



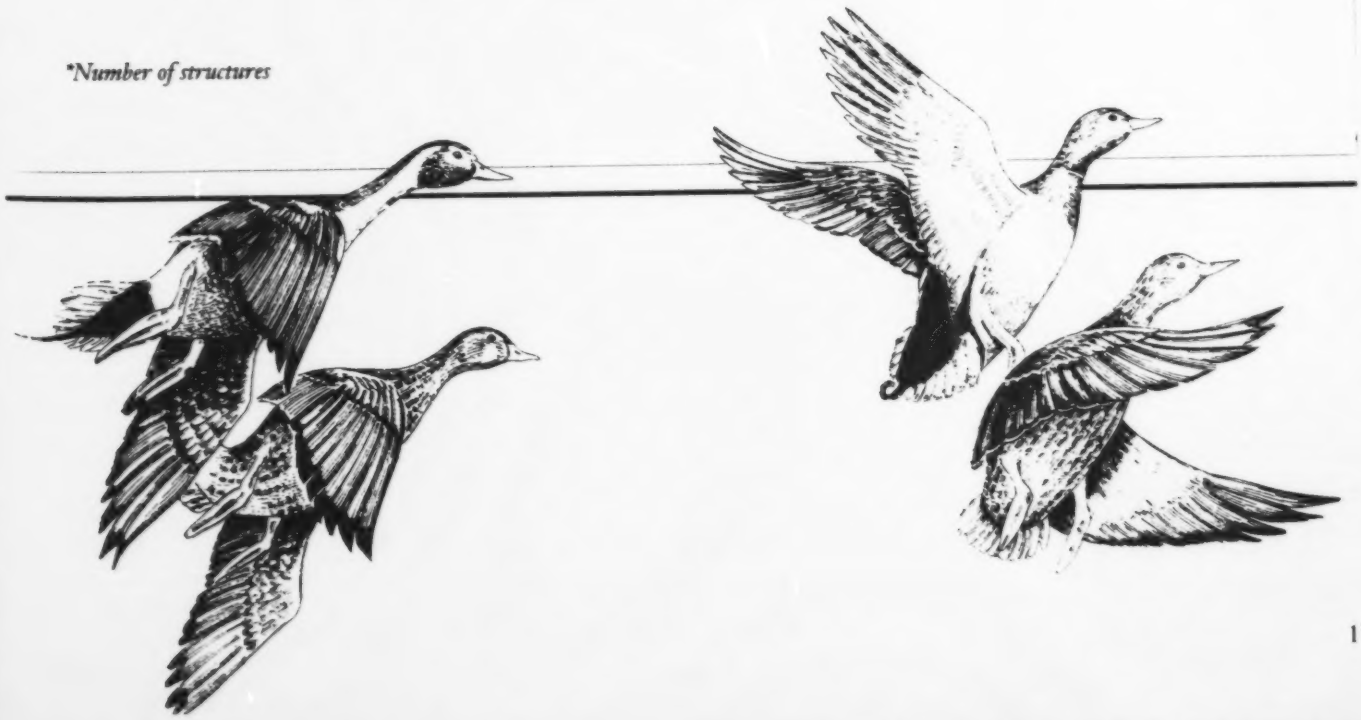
"Between 1964 and 1974, about 11 percent of the basins in the Minnedosa, Manitoba region were partially drained (Adams and Gentle 1978). Rakowski and Chabot (1983) reported a 56 percent decline in wetland area in the same locality between 1970 and 1983."

Canada Committee on Ecological Land Classification

Habitat Objectives

Type of Management	Acres (1,000s)			
	Alberta	Saskatchewan	Manitoba	Total
Intensive				
Dense Nesting Cover	346	54	22	422
Idle Hay & Pasture	555	554	–	1,109
Nesting Structures	11,000*	21,000*	4,000*	36,000*
Extensive				
Marginal Land Conversion	430	287	72	789
Improved Pasture Management	914	1,490	–	2,404
Delayed Haying	–	113	29	142
Green Manuring	120	572	–	692
Conservation Farming Demonstrations	96	1,001	371	1,468

**Number of structures*



Improved pasture management

Perennial cover conditions are improved through techniques such as rotational grazing and supplemental fall-seeding pasture. Cash payments offset landowner's net costs.

Delayed haying

Hay-cutting is delayed until July 15, to allow the completion of nesting cycles. Cash payments would offset reduced yield or quality losses.

Green manuring

Clover is seeded with an annual nurse crop; cereal is harvested and the legume ploughed down the following summer (after nesting season). Cash payments would offset farmer's net cost.

Conservation farming demonstration

Cooperative programs with agriculture will promote conservation farming methods which also have habitat benefits, such as zero-till, winter wheat pasture management and stubble mulching.

Crop Damage Control

Heavy crop damage usually occurs in years when harvest of swathed grain is delayed by wet weather; it is not directly related to the size of the duck population. Nevertheless, many farmers view waterfowl as an economic liability.

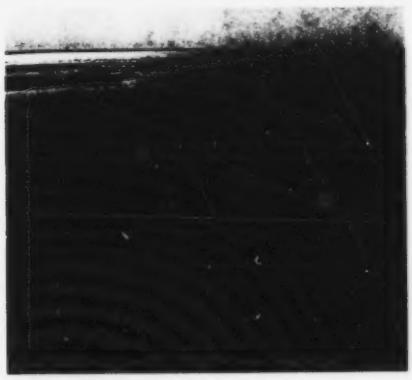
The strategy of the PHJV, to make wildlife a valuable product of the landscape, is highly dependent on the agricultural community participating in the programs. Therefore, a stronger program of crop damage prevention and compensation is an important component of the PHJV.

"The paradox of private land-public wildlife has given private stewards little incentive to maintain their wildlife habitats. In an economic system where the rewards go to the resource owners and entrepreneurs, there is little room for altruistic motives. "Ducks don't pay the bills!" said one prairie farmer to me, "So why shouldn't I drain this marsh?""

John P. Morgan

"The role of marshes and lakes in maintaining ground water levels of a region does not seem fully understood. Perhaps few acceptable generalizations go much further than "It depends..." Nevertheless, the matter of sinking water tables is becoming so vital to our civilization that we as a public may properly review our programs of draining surface waters to see whether they might have their reckless aspects from this standpoint, alone."

Aldo Leopold



Additional funding to offset crop damage losses will be available from a new federal-provincial agreement, under which the governments have already agreed in principle to increase farmer compensation up to 80% of actual crop loss. Resources will also be increased for crop damage prevention techniques, including feeding stations, scare devices and lure crops.

Key Wetlands

Scattered across the three prairie provinces are 400 large wetland areas — each more than 500 acres in size — that are currently protected to varying degrees.

It is critical that these wetlands remain intact as habitat for waterfowl and other wildlife species. They are valuable, as well, for groundwater supply, flood control and recreation purposes.

The status of each wetland area will be reviewed under the PHJV program, to determine whether additional protection is required, through existing or new legislation.

For those wetlands not currently being managed, long-term plans will be prepared to guide their future use and development, including any physical works such as roads or dams.

Rationalization of Policies and Programs

National concerns about habitat and soil and water conservation have identified a number of major policy areas that need to be examined in order to bring about land and water conservation practices that are in harmony with wildlife habitat objectives. Wildlife agencies will play an integral role in the review of these policies at national, regional and local levels. Transportation and marketing of agricultural commodities, drainage policy and farm taxation are among the areas for review.

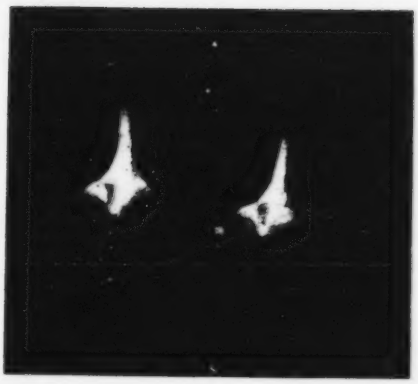
Evaluation

Success of the PHJV programs will be affected by a wide variety of factors, including:

- response of waterfowl and wildlife to changed habitat.
- acceptance and participation by landowners and the general public.
- levels of funding.
- future agricultural policy and programs.
- long term climate change.

"Prairie wetlands, ponds and their associated vegetation furnish habitat and food for an array of wildlife species. Both terrestrial and aquatic species may utilize wetlands for different needs or seasonal life cycle requirements."

Canada Committee on Ecological Land Classification



Evaluation results will be important in managing the evolution of the program from one which emphasizes an intensive approach initially to one which emphasizes extensive programs in the long-term.

An independent evaluation group will coordinate four major components of the evaluation program.

Monitoring

Measure progress toward desired waterfowl populations and changes in land use over a broad area.

Assessment

Determine the success and cost-effectiveness of site specific wildlife and land management practices, to guide adjustment of programs.

Directed studies

In comparison with monitoring and assessment, directed studies will be narrowly focussed and of short duration. They will test important assumptions made during planning, to answer critical questions about promising habitat initiatives before they are implemented on a large scale. Other directed studies will be required to examine environmental impact issues or answer unforseen problems which may arise during implementation.

Policy assessment

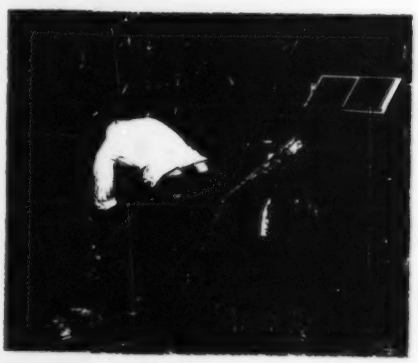
Analyze the impact of government policy on land use decisions that affect habitat.

Existing data bases such as the annual Breeding Ground Surveys, habitat monitoring programs of the Canadian Wildlife Service and Ducks Unlimited Canada, agricultural surveys and census data will also be used by evaluation teams.

The evaluation group will report results to the PHJV Advisory Board on a regular basis, along with any recommendations for program adjustments suggested by evaluation findings.

"Although most of this plan concentrates on particular problems of concern to man, it also recognizes the importance of waterfowl as indicators of a healthy environment. In the face of major alterations to the landscape by man, the continued maintenance and restoration of wetlands will be necessary to provide suitable habitat for waterfowl and many other wildlife species."

North American Waterfowl Management Plan



The Benefits

"Everything interconnects. Even seemingly insignificant events may trigger far-reaching consequences. It is a principle to keep in mind whenever humans propose to alter the natural ecosystems of the earth. Not every action is harmful; but every action has inevitable repercussions, some of them far more profound than we might suppose."

J.A. (Sandy) Barnett

The Benefits

The wildlife that flourishes when allowed its natural habitat is a recreational and economic asset of major significance to the prairies.

Hundreds of thousands of Canadians and Americans with highly diverse occupations and interests will benefit from programs under the Prairie Habitat Joint Venture.

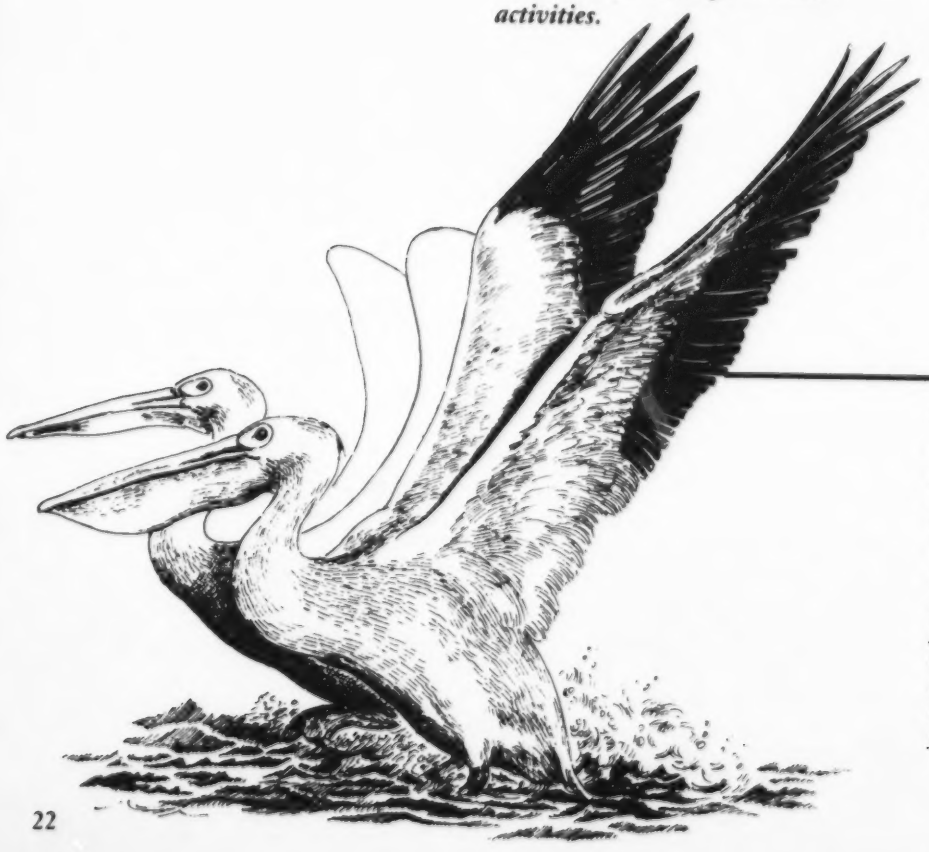
They include prairie farmers and ranchers, people who enjoy wildlife activities which range from hunting and fishing to photography and birdwatching, service and tourist industry entrepreneurs in rural and urban centers and the manufacturers and retailers of equipment used in wildlife - related activities.

Wetlands and associated uplands provide society with a diverse array of wildlife and plant species. The disruption of this ecosystem is responsible for the decline not only of waterfowl, but many of Canada's rare, threatened or endangered species — 30% of which are found in the prairie provinces.

A prairie landscape characterized by fertile soils, a diversity of agricultural crops, high quality surface and ground water supply and an abundance of waterfowl and other wildlife will provide a more stable and favorable lifestyle for the residents of prairie Canada — and the visitors who will come here in increasing numbers.

In fact, this high potential for economic growth will be severely at risk if conservation efforts — which produce the habitat required for wildlife to prosper — are not pursued.

Prairie habitat can be a major tool for Western economic diversification. There is a quickening awareness among the people of the prairies that soil and water form our life-base environment, and that land abuse imperils our well-being as well as that of wildlife.



"Historically, wetlands have been perceived as lands having little value. It is now known that they have important ecological, hydrological and recreational functions. They are "water purification systems", by acting as water filters, decomposing organic pollutants and taking up nutrients and other pollutants. And they can contribute to the maintenance of groundwater tables."

Environment Canada

A 1981 Statistics Canada survey established the value of Canadian wildlife resources to the country's overall economy at well above $1 billion. Numerous follow-up studies to the national survey have pinpointed the demand for wildlife-related activities.

Studies have shown for instance, that:

- Western Canadians have a much higher than national rate of multiple-activities related to wildlife pursuits.
- The national aging of our population — people living longer and more productive lives — will increase participation in every wildlife-related activity. This growth in demand will stress wildlife population and habitat.
- Significantly more people are interested in wildlife activities than actually take part. There is a potential for a 25% increase in membership to wildlife organizations among people in Alberta, Saskatchewan and Manitoba.

- The western provinces show higher levels of interest in hunting and other wildlife activities than any other area of Canada.
- Perhaps the fastest-growing recreation group in Canada at this time is the naturalist/bird-watcher.

"The duck resource is enjoyed by a great number of people in Canada, the United States and Mexico. Public interest in perpetuating this resource is widespread and includes such diverse groups as hunters, naturalists and other conservationists."

North American Waterfowl Management Plan

The development of programs and policies to promote conservation farming will benefit landowners directly. Farmers will find that the financial obstacles and policy constraints to adopting sound soil and water conservation measures are removed or alleviated. They will be able to adjust their farm management practices to ensure long-term viability of their chosen way of life. Many of those who have experienced chronic financial losses from waterfowl crop damage will have this potential economic impact removed, or greatly reduced.

There will be increased confidence throughout the agricultural community, as a new harmony is achieved between land conservation, wildlife habitat and sustained economic return.

Public and private expenditures will decrease as policy and program realignment occurs. The cost of redressing the effects of poor soil and water management — through water treatment, drain maintenance, crop insurance and flood damage control — will drop dramatically.

A healthy farming landscape that pulses with wildlife is key to a major, sustained economic upsurge for the prairies.

"The contemporary understanding of an integrated and vulnerable biosphere requires that we abandon domination/exploitation in favour of environmental conservation. Such a shift in philosophy holds profound implications for how we deal with the natural world. The rights of ownership are replaced by the duties and priviledges of stewardship, especially the duty to ensure that our priviledged use of a natural resource for short-term benefits must not jeopardize the long-term viability of that resource or others that depend on it, now or in the future."

J.A. (Sandy) Burnett

Administration and Funding

"Lack of economic value is sometimes a character not only of species or groups, but of entire biotic communities: marshes, bogs, dunes and 'deserts' are examples. Our formula in such cases is to relegate their conservation to government as refuges, monuments or parks. The difficulty is that these communities are usually interspersed with more valuable private lands; the government cannot possibly own or control such scattered parcels. The net effect is that we have relegated them to ultimate extinction over large areas."

Aldo Leopold

Administration and Funding

THE ADMINISTRATION

The Prairie Habitat Joint Venture accounts for two-thirds of all activity under the umbrella Canada-US North American Waterfowl Management Plan.

Fundamental to delivery of programs under the PHJV is the use of agencies that are already in place for delivery of programs in Alberta, Saskatchewan and Manitoba.

Public and private resource organizations will deliver programs under management agreements which define:

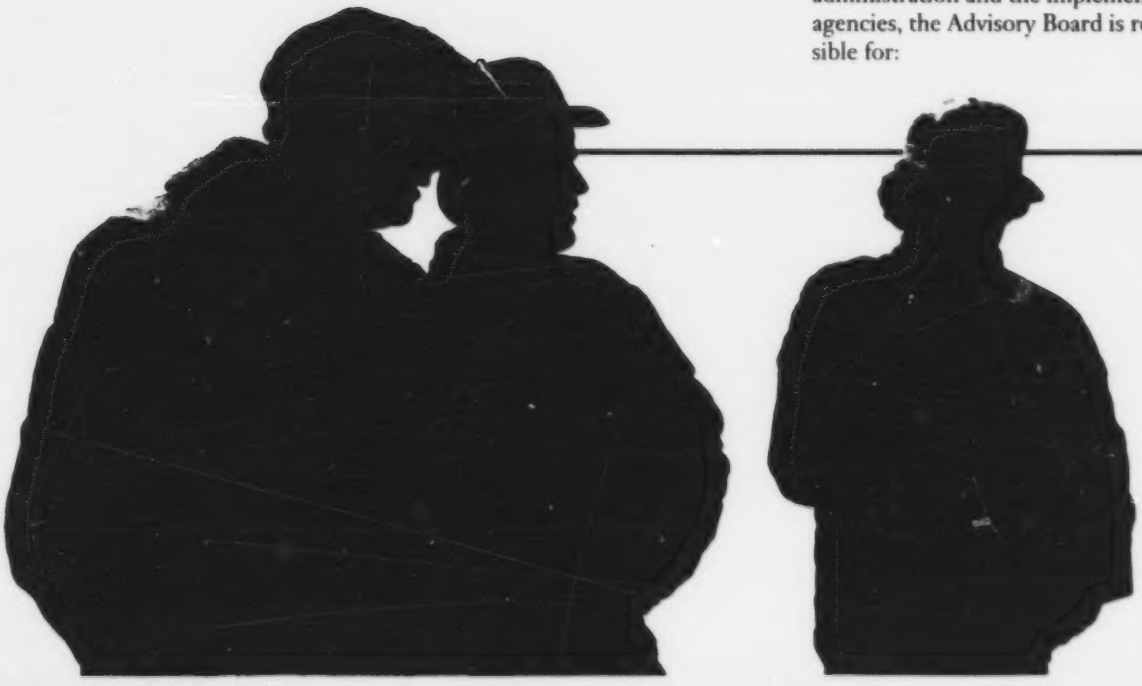
- implementation procedures (including broad roles)
- the process for joint program funding and delivery
- a way in which agencies not directly involved in program delivery can provide financial support.

Regional structure

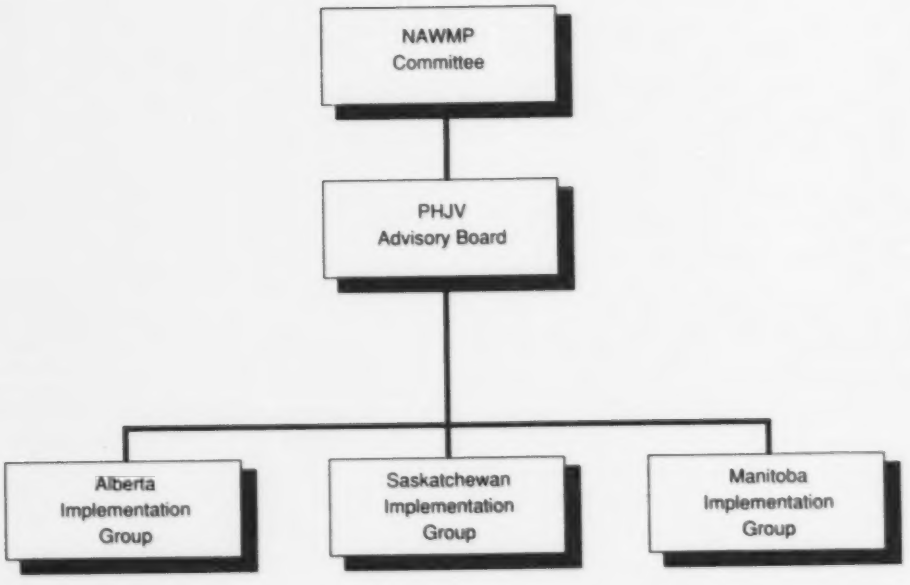
The Prairie Habitat Joint Venture Advisory Board coordinates regional activities in Alberta, Saskatchewan and Manitoba.

Current board members include representatives from Canadian implementing agencies which are functional in all three provinces: Government of Canada, Ducks Unlimited Canada, North American Wildlife Foundation as well as representatives from each provincial government. In addition to current members (page 2) provision is made for future additional members.

As the liaison between the NAWMP administration and the implementing agencies, the Advisory Board is responsible for:



Coordinating Structure for the Prairie Habitat Joint Venture and the North American Waterfowl Management Plan



NAWMP Committee
- membership is 6 officials each from Canada and U.S.
- meets twice per year to provide overall program direction; revises NAWMP

PHJV Advisory Board
- membership is Canadian implementing agencies
- endorses programs, arranges funding matches, evaluates program, recommends program adjustments to implementation groups, reports periodically on progress to NAWMPC
- support staff carry out work of Advisory Board

Provincial Implementation Group
- composed of implementing agencies within province
- approves program, coordinates implementation, oversees evaluation within province
- support staff carry out work of Implementation Group

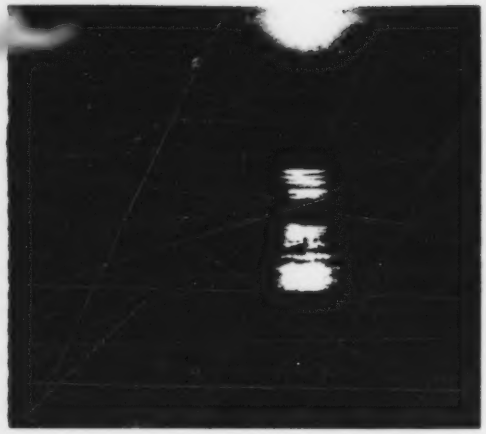
"No place on earth is immune to the stresses placed on the environment by one species - our own. The earth, however, has remarkable recuperative powers. In Canada we have the good fortune to be addressing most of our problems of habitat deterioration and species extinction before they have advanced beyond hope of recovery."

J.A. (Sandy) Burnett

"This is soil that belongs to our children and its loss guarantees they cannot be as prosperous as we are regardless of all the fancy footwork of economists, tax experts, chemists and agricultural experts."

Ken Emberly

- endorsing regional program proposals and forwarding them to the NAWMP Committee for funding
- reporting annual progress on the PHJV to the NAWMP Committee
- evaluating and reporting to its members and the NAWMP Committee on overall program effectiveness.



Provincial structure

Representatives of the public and private implementing agencies in each province are organized into a Provincial Implementation Group, responsible for the efficient planning, delivery and evaluation of programs within the province. It:

- approves program proposals for forwarding to the PHJV Advisory Board.
- ensures the programs are evaluated.
- recommends any necessary program adjustments to the implementing agency.

THE FUNDING

The PHJV expects program funding of approximately $1 billion Canadian to the year 2000.

The Funding process

- Canadian delivery agencies forward program proposals, with an offer of partial funding, to the Provincial Implementation Group for approval.
- If successful, the proposal goes to the PHJV Advisory Board which "endorses" the program and forwards it to the North American Waterfowl Management Plan Committee with a request for matching funds.

- Matching funds, primarily from U.S. federal and state governments and private sources, are made available through a "banking" arrangement. This arrangement ensures that funds are allocated and made available to the implementing agencies as intended by the donor and called for in the program proposal.

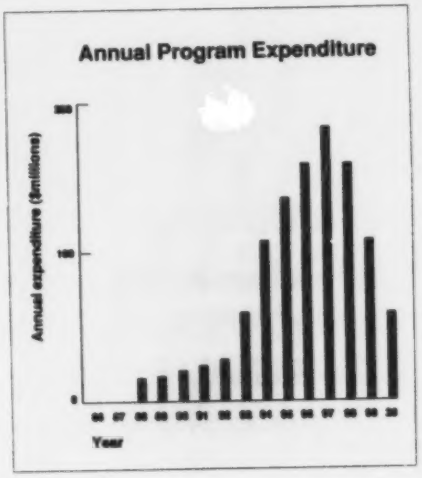
Expenditure levels

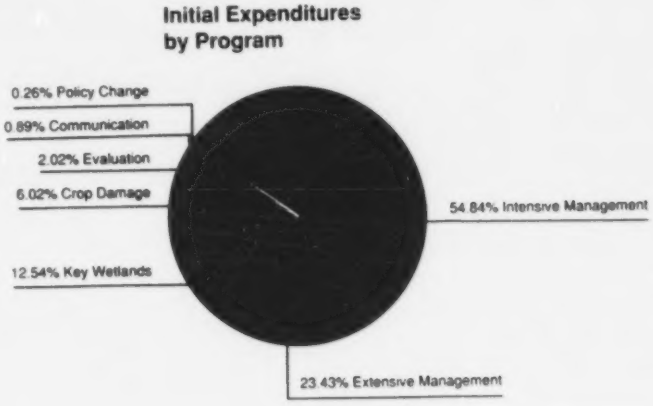
The need to evaluate some programs before full implementation will result in modest rates of expenditure increases in the initial years of the 15-year program. Spending will increase as full-scale programs are ready for delivery.

Considerations such as human resource planning and integration of delivery mechanisms between agencies further support an initial period of slower growth.

It is expected that growth in expenditures will hold to about 25% annually for the first five years and that approximately $900 million will be spent on programs in the years 1993 to 2000. Peak expenditures will probably occur in 1997, in order to "wind down" by the year 2000.

Initial years will see an emphasis on the intensive management projects (described earlier in The Plan section) which are largely delivered unilaterally by wildlife agencies. As the plan matures, the shift to broader integrated programs will occur.





"If you really believe that Habitat is the key, then the thing to do is to get on with it. If you are not sure what you should do, be careful, but try anyway."

Peter Larkin

"There is increasing economic and environmental focus on Western Canada's wetlands and wildlife, especially waterfowl. Poor wetlands management not only endangers western wildlife but is having a negative impact on prairie agriculture by increasing soil erosion and soil and water degradation. Wildlife-related activities now represent a significant economic sector which could be put at risk unless remedial action is taken."

A Framework for Diversification in Western Canada

From Vision to Principles

Planning and technical groups have developed detailed programs and delivery mechanisms for each province, guided by the following principles:

1. Objectives for habitat initiatives will be targetted to attain incremental waterfowl population objectives across prairie Canada.
2. Implementation of the habitat joint venture will focus on maintaining a healthy and diverse landscape through integrated land use management to provide continuing waterfowl and agricultural benefits.
3. In the long term, changes in land use practices that improve duck recruitment rates over a vast area are preferable to radical shifts in land use on small areas.
4. Complexes of small wetlands and associated upland nesting cover will be the target of direct habitat enhancement ventures on 3.6 million acres of high waterfowl capability and low agricultural capability.

5. Indirect conservation initiatives building on soil, water and wetland conservation programs will focus on enhancing waterfowl populations throughout the prairies through improved land use practices over large areas.

6. Minimizing the impact of crop damage by waterfowl will continue to be a fundamental component of implementing the Prairie Habitat Joint Venture by Canadian wildlife and agricultural agencies.

7. Evaluation will be an integral component of the program. Monitoring and evaluation, supported by directed research, will be the basis for adjusting the program to attain habitat protection, waterfowl recruitment and agricultural land use objectives.

8. The major coordinating role of the Canadian component of the agreement will be vested with the Canadian Wildlife Service. Provincial government agencies will be responsible for coordinating the program implementation and delivery.

9. The funding required to achieve habitat objectives in the Prairie Habitat Joint Venture is in addition to current funding levels of waterfowl habitat conservation programs undertaken by participating agencies.

10. All agencies/sectors having major interests in waterfowl, soil and water resources will be encouraged to participate in planning, implementing and evaluating the venture to:

a) promote the integration of public and private soil, water and habitat conservation programs having common objectives;

b) discourage conflicting inter-agency objectives; and

c) promote policy changes that will contribute to achieving habitat protection and enhancement objectives.

11. Where feasible, habitat initiatives under the NAWMP should utilize existing delivery systems.

12. Habitat enhancement on private land will be a fundamental component of the Plan's implementation. Participation by landowners in habitat protection initiatives will be on a voluntary basis using free-market incentives.

13. Title or responsibility for managing habitat secured under the plan will reside with Canadian interests.

14. Public lands of major importance to waterfowl will be targetted for protection and habitat enhancement.

15. Agricultural extension programs to demonstrate, promote and implement conservation farming techniques beneficial to waterfowl will be a major component of the Plan's habitat ventures.

16. Public education will be an integral component of all phases of the habitat enhancement and agricultural extension program to increase public awareness and to demonstrate benefits to agriculture and wildlife.

Acknowledgements

For more information on the Prairie Habitat Joint Venture or the North American Waterfowl Management Plan contact the following participants.

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Quotations
Page 3: *Entrusted to My Care*, Prairie Books, Saskatoon **Page 9:** *Entrusted to My Care*, Prairie Books, Saskatoon. **Page 13:** *Sand County Almanac*, Ballantine Books, New York. **Page 15:** *Entrusted to My Care*, Prairie Books, Saskatoon **Page 19:** *Of Men and Marshes*, MacMillan, New York **Page 20:** *On The Brink*, Prairie Books, Saskatoon. **Page 25:** *Sand County Almanac*, Ballantine Books, New York. **Page 27:** *On The Brink*, Prairie Books, Saskatoon. **Inside back cover:** *On The Brink*, Prairie Books, Saskatoon.

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"We have the freedom to choose between moderation and excess, between short-term exploitation and long-term co-existence with the rest of nature. The choice we make will be crucial for the whole world."

J.V. (Sandy) Barnett